

1826.] Dr North's Case of *Pseudo-Tetanus*.

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cuanhæ comp. and about 25 grains of calomel were exhibited in divided doses. Besides this, the patient took half oz. tinct. opii and considerable æther. Towards 9 his spasms had become so violent as to shake the bedstead on which he lay, and his whole frame was convulsed: his head rapidly vibrated backwards and forwards about a foot, and the muscles of the thorax and abdomen were so affected as to produce the sound of barking.

I now became seriously alarmed for the safety of my patient. While a warm bath was preparing, I made a free incision into the suspected heel, and searched in vain for some offending substance. A common injection brought away a hard stool. A second one, containing 3ij sub. carbonat. potassæ procured two copious stools, the last one evidently the effect of the calomel. He now became quiet, and slept sweetly for fifteen minutes. On waking, he experienced some slight return of the spasm, when he was immersed in the warm bath. After this he slept quietly all night. Took once in four hours 5 grains calomel and 5 of the comp. powder of ipecac. Had two more copious stools before morning. He soon entirely recovered under the use of opiates and cathartics, and has never since experienced a similar attack.

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On Blisters.

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THE effects of the officinal preparations of the Spanish fly, (*cantharis vesicatoria*) when applied to the skin, are well known. These are first slight, but increasing redness; sense of smarting or burning; minute vesicles, formed by separation at various points, of cuticle from parts beneath, by effused fluid; these are of a light colour, distinct; then increase of vesicles, gradually becoming confluent; at last a single vesicle or bag, distended with a yellowish fluid, the fluid gravitating to depending part. The bladder at length bursts, or, being punctured, the whole fluid escapes, and the cuticle accurately covers the surface from which it has been raised. The part now dries, and the surface gradually regains its original colour and texture. Such are some of the more ordinary circumstances which attend vesication. It also happens that, instead of a number of minute vesicles, there is formed in the

first instance a single one, which goes on to increase, and, at length, forms a bag of fluid which corresponds in extent with the size of the vesicating plaster. In some instances, the substance contained in the sac differs from the fluid above mentioned. Gelatinous, or albuminous matter, is effused along with, or in place of the serum; or coagulation of this last takes place. The blister in this case is firm, and yields but little fluid when punctured, and the shape and nearly the size of the tumour remains after puncture. Discharge, however, gradually occurs here as in the other case, and I have not observed any marked difference in time of healing, or in the circumstances which attend it.

Blister, now and then, do not heal after the manner now described. Inflammation occurs and produces a most painful local disease. In some cases death is produced by it. This is a secondary inflammation, and it may be either common or peculiar. I use the latter term to distinguish one from the other, and in preference to specific, which implies something which does not belong to this case. An inflamed blister exhibits the following appearances:—The blistered surface is of an intense red colour. The cuticle which contained the water in an early stage of vesication, disappears entirely. A smooth, moist surface presents, with edges very strongly marked by the perfectly healthy skin which bounds it. Some fulness may be observed. Not that the inflamed part rises above the surrounding healthy parts, but a general fulness exists, in which the diseased and healthful parts partake. Swelling, however, is not very remarkable. The patient's sufferings are sometimes intense. An intolerable heat, with smarting and pricking pain is felt over the whole sore. The air can hardly be borne for an instant. The sensibility to an altered temperature, resembles that which the inflamed eye suffers from sudden exposure to light. All dressings are almost equally tormenting; and where children are the sufferers, the attempt to remove the dressings produces the strongest expressions of distress. I have seen this disease in adults and in children; and though the former can and do command the expression of their sufferings, they have uniformly spoken of the pain in the strongest terms. Pus begins very soon to form in these cases; but this does not bring much relief, or as much as in other cases of suppuration in other inflammations. The quantity of pus formed in some cases is excessive. I scarcely recollect any form of inflammation, in which the secretion is so great as in this under notice.

I have spoken of the local symptoms of inflamed blisters. Symptoms of general irritation, more or less severe, soon occur.

Now, if these be severe, the secretion of pus is diminished along with other secretions, and polished dry spots occur on the diseased surface. At times, there is an abatement in the local suffering when this happens; but, more commonly, the irritability and sensibility is increased, and the patient's sufferings are much augmented.

Secondary inflammation of blistered surfaces is commonly ascribed to cold. The local action of cold is here meant, such as happens from much exposure of the part while dressing it. This is not probably the cause. I have thought, in many cases, that it depended on the state of the system, and in some have been satisfied it did. In others, especially in young children, it has seemed to be produced directly by the powerful action of the blisters themselves. The severest case I have seen, and it was a fatal one, was referred entirely to this cause. In an exhausted state from disease, I have known blisters to produce much trouble and distress from becoming inflamed. The place selected for their application has appeared to have had some agency in producing these effects. Thus, blisters on the trunk, whether on the abdomen or the thorax, whether on the anterior part of the latter, or between the shoulders, have been followed by severer inflammation than on the extremities.

Exposure of the whole body to cold during convalescence, after blistering; to a cold air, for instance, while riding in a carriage, which has been followed by a chill; and a febrile state has, in one case, produced most severe inflammation of a blistered surface, and this too, where it was so near well, that farther dressing of the part had become unnecessary. In one case, this occurred accidentally twice. In the first instance, a very severe suppuration followed a renewed inflammation; and, in the second, mortification of a portion of the surface took place, which well nigh proved fatal.

Some have thought that secondary inflammation of blisters were, in some way, connected with the time the blister has been allowed to remain on the part. I have not thought so. It does not seem to me important, that blisters should remain on as long as some advise; but I have not thought that time alone has had any material agency in producing either excessive inflammation in the first instance, or a disposition to secondary inflammation afterwards. Some practitioners recommend them to be left on even after full vesication has taken place, and consider the blistering plaster the best dressing in the first instance. And why should time increase the inflammation? The direct effect of the plaster, as has been before stated, is to excite an action in the part to which it is applied, which ends

in an effusion of serum below the cuticle. In other words, inflammation is produced, and this is followed by effusion, as an immediate effect of a sufficient degree of this inflammation. Now, unless the action of the blistering plaster be so great, positively or relatively, as to produce in the first instance such an inflammation as will at once pass to gangrene, effusion will take place, and a natural cure for the time certainly be made of the inflammation. There may be states of system, in which fatal inflammation of the part may follow the action of a blister; or there may be something in the age of the patient, in either extremes of infancy or old age, or in that state which exists during high general inflammation, in which the ordinary action of a blister may produce the death of the part to which it is applied. But these are not the cases which are to settle the question of the length of time it would be best to permit a blister to remain on a part in the majority of cases, nor should we look to what occurs in them for an explanation of the occasional severe effects of blistering, in what seem appropriate cases. They are not at all proper cases, themselves, for such remedy, and therefore have no sort of relation to its ordinary use. I think, from what I have seen of the practice of others, and from what has been remarked to me, that I am in the habit of removing the plaster earlier than the majority of my brethren. I do not recollect a case, in which full vesication has failed to occur, where the plaster has been on a sufficient length of time to produce distinct redness, and incipient vesicles. Even when these have been very minute, and the plaster has been then removed, vesication has gone on as surely and as promptly after the removal of the plaster, and under a simple dressing, as where the former has been left undisturbed. Patients have preferred this mode to the more common one. They are less incommoded by the smell of the flies, which is peculiarly unpleasant to some individuals; and a light piece of linen, spread with a simple cerate, has been more comfortable than the heavy and stiff leather, on which the ointment of flies is ordinarily spread. I have not, however, pursued this practice from a belief, that keeping the plaster on a longer time, or till full vesication is produced, would be followed by a severer inflammation than takes place from the mode I have employed.

Blistering plaster has a very decided effect in some diseases, without producing any visible effect; and full vesication will follow its application, if for a couple of hours only, and even where no visible effects have been produced at the time of removal. These are quite interesting facts in the history of this

remedy. Odier, of Geneva, in his manual of practical medicine,* has availed himself of the first in the treatment of rheumatism. He found that, by merely allowing the plaster to remain on the part one hour, the pain was sensibly diminished, and this without redness or blistering. He applied the plaster again and again in the course of the day, to the same part, and assures us he was very well satisfied of its beneficial effects.

I have used blistering plaster in the same way. It has hardly failed of giving some relief, and in one case was curative. Has this mode been adopted in other diseases? Where we are anxious to avoid the general irritation of full vesication, and wish for a manageable local one, may we not resort to the method as recommended by Odier, with a prospect of good? Is it not much better, in the last place, to seek relief in this way than in the more common ones, the rubefacients, &c. in general use?

I have said nothing of the treatment of irritable blisters, or of the secondary inflammation which now and then follows vesication. I have thought a light poultice of crumb of stale bread and milk to give most relief in the first instance. The state of the alimentary canal should be carefully attended to, particularly if costiveness exist. If the patient have taken any indigestible food, and the stomach is oppressed, and nausea be present, an emetic will do much to diminish the pain of the blister. Opiates are sometimes indispensable on account of pain and watchfulness. In a more advanced stage of the disease, when pus is freely secreted, and still the pain is very great, much difficulty is found in forming a dressing which shall be tolerable to the part. In order to give most comfort, the dressing should be arranged with much care. The following detail will hardly be called trifling, if it suggest any thing which may be of use to a sufferer. Take a piece of old linen, twice as large as the vesicated part, cover it accurately with cerate, which shall contain wax enough to prevent its melting by the heat of the skin. Next, so double the cloth as that the surfaces covered with the cerate may come in contact. Let them be pressed together, and more cerate spread on that portion of the linen which is to come in contact with the ulcer. Lastly, let this be covered with rose ointment. I have found this dressing more easily borne by an irritable and painful blister than any other. I have found no benefit from ointments containing any of the preparations of opium, or opium itself. It has been

* Vid. Manuel de Médecine—Pratique ou Sommaire d'un Cours Gratuit, &c. Par Louis Odier, Docteur et Prof. en Médecine, &c. de Genève, a Paris, 1811.

recommended to apply stimulating balsams in some of these cases, and balsam of Peru has been particularly specified. I have not found these remedies useful. Dry lint will be found, in some instances, the easiest dressings to these ulcers. One thing should be especially guarded against; this is the frequent removal of the dressings, and the consequent exposure of the part to the air. I have always found this course injurious, and, in cases of children, it is to be especially avoided. They are exceedingly alarmed, and suffer much from the necessary dressing required, and render professional attention on them exceedingly uncomfortable by their unceasing cries.

Two cases in which blistering was followed by very severe effects, in one of which, in fact, it was fatal, have occurred within my immediate observation, and I shall now give some general account of them.

CASE I.

This case occurred some time since in a boy of six years of age. He had suffered from an attack of inflammation of the lungs, for which a blister to the chest, among other remedies, had been employed. The disease had been severe at its onset, but yielded pretty readily to the means used. During convalescence, on a pleasant day, my patient was taken into the country a few miles. During the drive, the weather changed and became much cooler than it had been. The back of the chaise had been rolled up, and the child was exposed to a strong breeze of cold wind during the drive home. He complained of being cold, and of feeling as if cold water had been poured down his back. A smart chill followed, and this was succeeded by much heat. The blistered surface, which had quite healed, assumed a bright red colour, and soon became very painful. I saw him at this time, and directed a light poultice to the inflamed part, with a gentle opierient and alterative course. Inflammation rapidly increased, which terminated in free suppuration. The mildest dressings were employed, among which were simple cerate, rose cerate, dry lint, &c. The inflammation did not extend beyond the surface originally blistered, but ulceration of this surface took place, and in some parts to a considerable depth. These were constantly filled with pus. Much debility, with loss of flesh, occurred under this great drain; and the usual means were employed to restore tone, and supply this great waste. The dressings were altered, and such employed as are occasionally found to restrain excessive secretions of pus. These

were derived both from vegetables and minerals. From the last, those furnished by the various preparations of the oxide of zinc, were best tolerated by the part, and seemed to do most good. At length granulations formed; the sore became less deep, and cicatrization seemed well established. No more pus was secreted than was perfectly healthy; the strength was improved, and the nutritive processes were well performed. The time occupied thus far in the case was about a month; the month of May, 1819.

Convalescence being again restored, and the weather being very warm, and the situation being a very confined one in which my patient resided, it was judged best to remove him to a very healthful village about five miles distant. This was done, and with all possible care, to prevent irritating the portion of ulcer which remained unhealed. The advice was given from a whole view of the case. Although much had been gained, both locally and generally, still it was evident much remained to be done. The little boy was still irritable. His mind was much enfeebled by his sufferings, and it was hardly possible to render him comfortable. His residence has been mentioned; and it seemed very desirable to place him in as free and pure an atmosphere as possible. He went into the country, but stopped by the way to rest and to dine. There was a shower during his visit; and in walking to the carriage, he stepped into some water which remained in the road, and got his feet wet. His night was a very restless one. The ulcer on the chest became very painful; and though less so in the morning, he seemed much exhausted. His mother, on removing the dressings at this time, saw at once that a great change had occurred in the blistered surface. It was now dry, and of a dark, and in some points of a black colour. I was requested to visit the child without delay.

I found the sore, as it was described to me. Mortification had occurred in spots, and the whole aspect of the ulcer was bad. The system was disturbed. The countenance pale and depressed, and much general exhaustion manifested. The means now used were such as would restore a more healthy action in the portions of the ulcer which were least affected, and which would promote or preserve the most healthy state of the surrounding parts. These were found in the fermenting poultice, powdered bark, &c. and such internal means as would concur with these in any salutary changes they might bring about. The sloughs separated; and though ulceration extended beyond the parts originally diseased, this extension was moderate and soon ceased. Ulceration extended rapidly through

the newly formed and healed parts, and, at length, a deep excavation was made, which was bounded below almost immediately by the sternum and cartilages of neighbouring ribs, and around by slightly elevated edges. The secretion of pus again became excessive, and under every variety of treatment, in the modification of which I was constantly assisted by Dr Warren, emaciation became excessive, with the greatest exhaustion in strength took place. The weather proved exceedingly unfavourable. The heat was intolerable over the whole country, and in the situation in which my patient resided, it was peculiarly severe. Spasms at length occurred, which threatened to become universal, in the form of genuine tetanus. It was determined to give a fair trial to opium, and we began immediately its exhibition in the form of tincture. It was given every second hour at first, and then every third hour until the system manifested its full effects. This occurred, and was discovered in the most perfect relaxation of the whole body. The spasms ceased entirely, and did not recur. A profuse sweat broke out, and a constant nausea, with frequent vomiting, and faintings soon followed the state of relaxation. This state was one of great alarm to the friends. The countenance gave most alarm; it discovered the perfect surrender of the whole powers, animal as well as physical, to the opium. The system, however, at length rallied; and it was obvious, that a great change for the better had taken place. This continued with slight interruptions; and towards the close of July, the ulcer had entirely healed, and the patient was restored to his usual health. A large cicatrix remains upon the seat of the ulcer, and rests almost directly upon the sternum and cartilages. It is fixed closely to these parts, and exhibits the contracted, irregular, white, and shining surface which remains after severe ulceration from a burn or scald.

CASE II.

This was a child between three and four years of age, who was occasionally attacked by slight convulsive disease, but in other respects was healthy. Some one had suggested the use of blisters for this complaint, or it was supposed that such advice had been given. An attack of the fits occurred; and a blister was applied over the sternum, covering a considerable portion of the chest. The blister drew well, and was dressed after the common manner. The child was observed to be very feeble, pale, and cold, on the following day, but this gave little, if any, alarm. The day after, the blistered surface had some-

thing about it which disturbed the mother; and her anxiety was increased by the increasing drowsiness and exhaustion. I was now for the first time called in; and upon removing the dressings, discovered that the whole surface was in a state of gangrene, of that description of it, which results from feeble action. The surface was perfectly dry, without any appearance of vesication; and no line of inflammation bounded it where it terminated in the living parts. The child could hardly be roused from the stupor in which it was found, and the means which were employed did not check the progress of local death. The child died in two days from the time I first saw it.

MISCELLANEOUS COLLECTIONS.

Vaccination.—M. Dutrouilh, of Bourdeaux, in a letter to the French Academy of Medicine, says, that among more than 6000 individuals whom he has vaccinated in the course of twenty years, not one has been attacked with small-pox, although that disease has been frequently epidemic at Bourdeaux during that period. M. Devilliers reports, that of 215 deaths in private houses, in the *twelfth arrondissement* of Paris, during October last, ninety-one were from small-pox, and none of these individuals had been vaccinated. Those who had been vaccinated resorted with impunity among those affected with small-pox; and in those establishments where no persons are admitted who have not been vaccinated, the small-pox did not appear. M. Salmades reports, that in all the experiments of a second vaccination made by a committee appointed for that purpose, no second effect has been produced; and he observes, that practitioners do not always distinguish the true cicatrix from those which are imperfect, and from which it differs in being more figured, or honey-combed (*gaufrée*), and radiated from the centre to the circumference. One or two instances have lately come to our knowledge, in which there is some reason to believe that the second vaccination took effect, although the first, performed some years before, was not in any respect imperfect. As regards the appearance of the cicatrix, many vaccinators doubtless pay too little attention to it. The description of it given by Dr George Gregory, in the *Medico-Chirurgical Transactions*, appears to us to be very correct and